

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 154455.2/LE	<div style="display: flex; justify-content: space-between;"> FOR FURTHER ACTION See Form PCT/IPEA/416 </div>	
International application No. PCT/EP2004/050838	International filing date (<i>day/month/year</i>) 18.05.2004	Priority date (<i>day/month/year</i>) 21.05.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant SWISSCOM AG		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>14</u> sheets, as follows: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <div style="margin-left: 20px;"> <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050838

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))
☐ publication of the international application (Rule 12.4)
☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

☐ the international application as originally filed/furnished

☒ the description:

pages 1, 2, 7-17 as originally filed/furnished

pages* 3-6, 6a received by this Authority on 18.09.2004 with letter of 16.09.2004

pages* _____ received by this Authority on _____

☒ the claims:

nos. _____ as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* 1-18 received by this Authority on 18.09.2004 with letter of 16.09.2004

nos.* _____ received by this Authority on _____

☒ the drawings:

sheets 1/2-2/2 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (specify): _____

☐ any table(s) related to sequence listing (specify): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (specify): _____

☐ any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050838

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-18	YES
	Claims		NO
Inventive step (IS)	Claims	1-18	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Documents cited

1. The present international preliminary report on patentability refers to the following international search report citations:

D1: GB-A-2308789

D2: DE 43 03 999 A1.

Novelty and inventive step (PCT Article 33(2) and (3)):

1. The present international application concerns a computer-based system for the dynamic allocation of carrier frequencies to computerized access points in a local radio network according to the preamble of independent **claim 1**, and to a corresponding computer program product according to independent **claim 11**.

The aim of determining optimized carrier frequencies is to prevent adjacent access points from disturbing each other by interference.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

2. The international search report citations **D1** and **D2** likewise disclose methods for the dynamic allocation of radio frequencies and radio channels.

In document **D1** a "Frequency Spectrum Manager (FSM)" is supplied with spectrum information by an MSC. This information comprises, *inter alia*, system performance and interference information. The FSM analyses the information received in accordance with "defined rules" and then takes a decision as to whether to reallocate the available frequency spectrum to the base stations. The "rules" used are not specified more closely in document **D1** (see **D1**, page 15, line 18, to page 16, line 6; page 21, lines 13/14). Document **D1**, figure 5, merely gives an example showing how, depending on the demand detected for a cell, channels are added to or removed from a cell. In doing so, the expected quality of the channels is taken into consideration.

In document **D2** a change in the allocation of the radio channels (that is to say, the channel lists) is made in accordance with measurement data (for example, signal/interference ratios, bit error rate, ...) obtained while a mobile radio system is operating. In doing so, the quality of a radio channel is monitored and every effort is made to ensure that the sum of the estimated values of the qualities of the radio channels on a channel list is a maximum for all radio stations.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

3. Documents **D1** and **D2** differ from the present independent **claims 1 and 11** by virtue of the actual selection of a carrier frequency to be reallocated to an access point.
- To this end documents **D1** and **D2** employ quality-controlled mechanisms.
4. Contrary to the disclosure in documents **D1** and **D2**, according to the invention a radio channel with an allocated carrier frequency is selected for a first access point in such a way that the **sum of the differences between the allocated carrier frequency of the first access point and the stored current carrier frequencies of other access points is as great as possible**. In addition, the individual differences are weighted with weighting factors determined for the access points using detected operating values.
5. Since none of the prior art documents cited in the international search report alone or in combination discloses or suggests the features of independent **claims 1 and 11**, **claims 1 and 11** meet the requirements for **novelty** and **inventive step** of PCT Article 33(2) and (3).
6. Dependent **claims 2-10** and **12-18**, which are all directly or indirectly dependent on **claim 1** or **claim 11**, consequently likewise satisfy the requirements for **novelty** and **inventive step** of PCT Article 33(2) and (3).